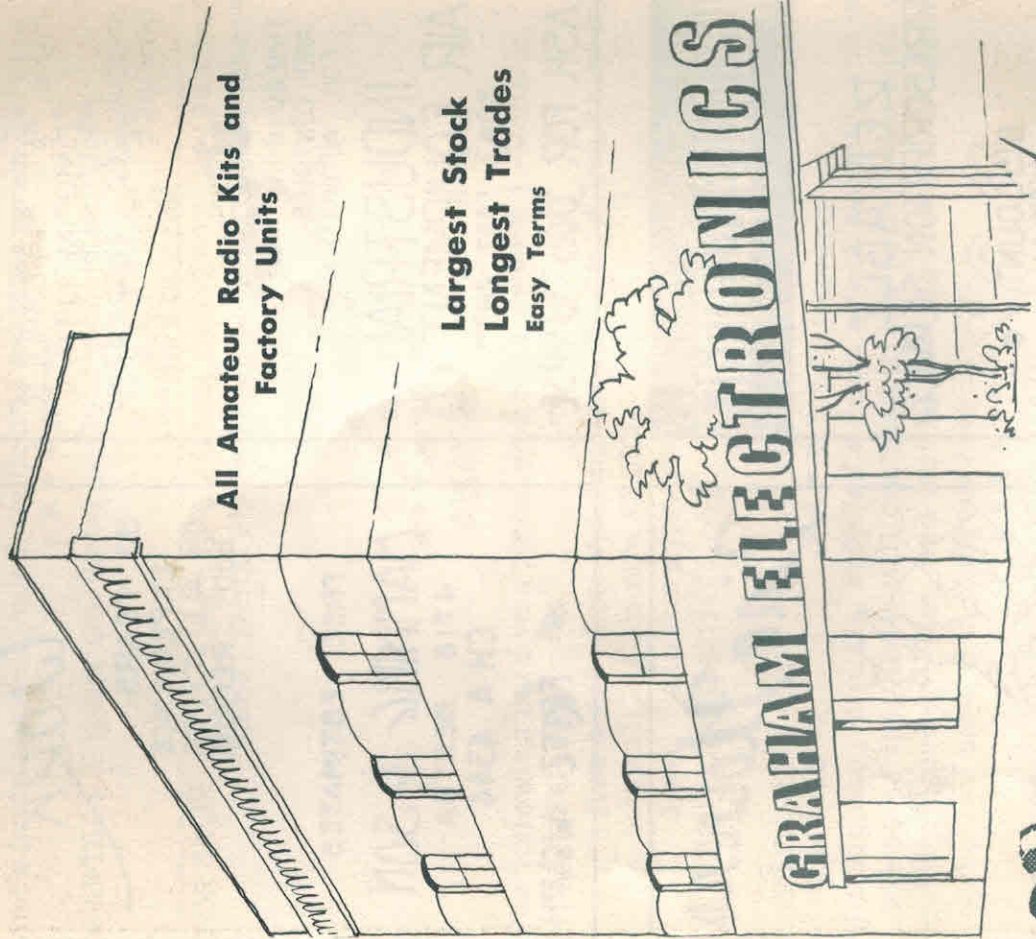


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OCTOBER 1960

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The Indianapolis Radio Club meets on the 2nd and 4th Friday of each month at the Indianapolis Park Board Building located at 29th and Harding Streets. Meetings start promptly at 8:00 P. M. Indianapolis time.

AMA-CHEWER STAFF

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TECHNICAL ADVISORS	Cliff Singer D. J. McVicker	W9SWD W9JZV
COVER STORY	Ron Williams	W9JVF

Ama-Chewer is published monthly by and for I.R.C. and all Amateurs in this area. Non-Members of I.R.C. may subscribe at the rate of \$1.00 per year.

Publication is on the 3rd Friday of each month, with all news items and ads due no later than the 1st Friday of each month.

Ham-Ads (5 line limit) are free to members and subscribers. Others may use this facility at the rate of 50 cents per ad.

Ama-Chewer welcomes the forwarding of information on coming events of other clubs in the area for publication in the program section.

PRESIDENTS FREQUENCY

Summer over-no more grass to cut-gutters to paint-mums to plant-nothing much left to do in the way of household chores, so lets get started again with the Radio Club habit.

With over 800 hams in the Indpls. area I think we should have the walls bulging on club nights. I imagine there are some new ones who don't know about IRC yet and they would welcome an invitation from you to come along some meeting night.

Call somebody-old timers too-and lets get back in the habit of attending meetings and bringing along a guest. Drive by and pick them up, do like the Demos. and Repls. on election day. With a little push we will pass the 100 mark of active members and start on the goal we have been looking forward to for a long time. As I see no reason why we shouldn't have 150 active members in IRC.

The rest of the years programs are tuned to meet the wants of the members-so lets turn out in force. Your club is in an excellent position to help all local hams in many ways.

I would also like to remind you that there is always work behind the scenes, between the scenes, and in front of the scenes, and if you find that you want to pitch in on some phase of club operation, there is always a "Help Wanted" sign hanging in the front of our door.

See you and your guest at the next meeting.

PROGRAM REVIEW

The first program of the fall meetings of IRC was put on by Mr. Robert Atherton, Semi-Conductor design engineer at Naval Avionics Facility, he covered transistor fundamentals and circuitry.

The program consisted of a short familiarization of transistor fundamentals showing how the four valence electrons are shared with adjoining atoms to form a "co-valent bond" in the germanium atom. By adding impurities this balance is upset to provide an excess of electrons by adding antimony giving 5 electrons producing N type material. Likewise other impurities are added to provide 3 valence electrons in the atom structure resulting in a net positive charge producing P type material. This absence of an electron is referred to as a hole which is the carrier of the positive charge.

After seeing three films on further transistor theory and application Mr. Atherton gave some general information on how to test common transistors with a Simpson or other similar VOM. He cautioned everyone to use the R x 100 scale to limit the current to 1 ma. as this value would not harm any of the

(continued on page 10)

TWENTY YEARS AGO

Twenty years ago, some of the gang from IRC were camping up around the area that is now Spring Mill Park, which was a favorite spot for week-end campouts and vacations just as it is now.

The tents had been pitched, supper dishes washed and the evening camp fire lighted, as the sun began to sink into the hills, casting those long strange shadows around the camp site.

The gang gathered around the fire and the regular evening breeze session got into full swing. Suddenly someone ask "Whats that green eyed thing out in the woods?" All eyes turned and sure enough there were two flickering green eyes watching the group from the dark of the woods. A voice shouted "D.J. let me have your revolver, where's a club, get a rock, etc." This tumult continued as the flickering eyes gained a voice and began to howl. After the monster was revealed it was decided that a certain gent had raised more ruckus than anyone else in the camp, and for years afterwards was referred to as "Wildcat" McNay.

As in all cases there is a story behind the story, which sometimes gets the joke makers in trouble too. CUD,AHL and DNQ had taken a paper plate, cut out eyes, pasted green leaves over same, and put a candle behind the plate, hence the green eyed monster. At the proper time for the monster to begin his howling, DNQ was elected to creep around behind the eyes and become the voice. Looking back now the "voice" wonders if that trip through the underbrush with the thought of snakes and the like on his mind wasn't as scary to him as the monster was to the newly named "Wildcat". In any event it was another week-end with IRC which brings back the memories that we are very fond of.

W9DNQ

* * * * *

WE THINK YOU SHOULD TOO

Despite the fact that TV, newspapers, radio, etc. are all running spot announcements to awaken everyone to their duty to vote, we think that we too should join in and second the idea. It will only take a few minutes of your time, and then you will have the right to hash and rehash the results as they come in on election night. If you don't vote, keep in mind that in fact you won't be able to open your mouth, without knowing that you didn't do your job, and are shouting about something that you didn't do, and not something that the rest of the country didn't do.

TIME FOR NEW PLATES

The applications for call license plates have been mailed to all those who had such plates last year, by the State License Bureau. For those of you who wish to get them for the old gas burner and do not have an application they are available at the Director of Special Sales, at the State House here in Indianapolis.

The usual fee of \$2.00 is payable in advance along with a notarized application.

So if you want your tag hangin on the tailgate, get in gear and hop to it, as applications must be in by October 1st.

INDIANAPOLIS AREA DIRECTORY

By this time most all of the Amateurs in the Indianapolis area have received a postal card requesting information needed for the publication of a new "Call Directory."

Everyone who is listed in the fall Call-Book, was mailed a card which should take in 95% of the active Hams, however due to new calls, moving the QTH, etc. it is possible that we have missed the other 5%. In order to get these lads and gals listed we request that if you know of anyone who does not have their call in the fall issue of the Call-Book, or who has moved, creating the possibility of not getting their mail, that you inform them to contact Pat Husk, K9EUQ.

This year we plan to include the towns around Indianapolis such as Brownsburg, Plainfield, Carmel, Zionsville, etc. In general we will cover a 25 mile radius from the center of Indianapolis, or it might be stated that we will cover those towns which are included in the new telephone Metropolitan Plan.

They will sell for \$1.00 as usual, and we feel sure that anyone who had a previous issue will agree that they are a must in every shack.

With your help we can get every ham listed, so check around so that we won't miss any of the gang.

WE STILL ISSUE THEM

During last month Bert-K9JSF, reports that he issued only one Marion County Certificate, and that went to Gerald M. Carrier-W9PQZ for 25 contacts. The awards look mighty fine hanging in the shack, ---- do you have yours?

SPLATTER

K9LNX-Gary, will be off the ham bands for awhile as he is returning to Purdue U. for another crack at the books.

W9MEK, Ralph, picked up a new KWM2 while at the convention.

K9DWT, Winston, is also tackling the books at Butler U. but figures to have time for a little key-banging on the nights the profs. ease off on the studies.

We will also be hearing W9LDB, Dick, who hails from up Elwood way, who will also be enrolled at Butler.

A 500 watt transmitter on 20 meters SSB operating via a new Thunderbird tri-bander from a 40 foot pole, is banging out top-notch signals from the QTH of K9KSP, Rick.

Congratulations are in order for K9WKO, Charley, who has earned his General ticket and can be found on 20 and 75 phone with a little CW now and then.

Just in case you haven't gotten the word, the QRM on the public address system during the recent Convention, was through the courtesy of K4USA (MARS) which was operating from a trailer parked in front of the hotel.

A new mobile sixer joined the ranks via K9SWV, Al.

W9PSE has a new 40 foot tower, and is looking around for a place in the yard of the new QTH, which will allow access and at the same time be hidden in the trees. (The question is how does the beam get around, Ed.)

K9LVR, Bill also has a sixer operating up around 52mc.

A new HQ-170 can be found in the shack of K9GEL and we understand that he is so proud of it, that he even keeps it dusted.

A 80-D 2 meter transmitter and receiver is the talk and ears in K9VTS-Jacks, 52 Studebaker.

Understand that the rocket boys will be undertaking Project Oscar in the near future which will put a satellite in orbit with a 2M transmitter operating at about five watts. The vehicle will be of the Pioneer type and we understand that launching dates etc. will be announced so that all hams can take an active part.

Despite the fact that it will no doubt set the hobby back 10 years, we wish to report that Bert-K9JSF is now operating SSB via a 20-A. He also has a 6N2 and a Ranger beating up the 6M pathways.

K9IUH is off the air and spending his evenings doing wood work for the XYL, and man oh man, its tough to saw in a straight line, plus the fact you can't solder wood.

(CON'T on page 8)

TECH TOPICS

The BC-221 frequency meter has always and still is one of the most versatile and usefull pieces of surplus military test equipment to become available to the average amateur. Much has been written about the application and uses so we will not repeat any of this here. However, there is a simple modification which any amateur can make that will not alter its original usefulness nor impair it's original calibration, but will more than double its usefulness in making frequency calibrations. In addition an additional degree of care in setting up and calibrating will increase the accuracy of the low range band.

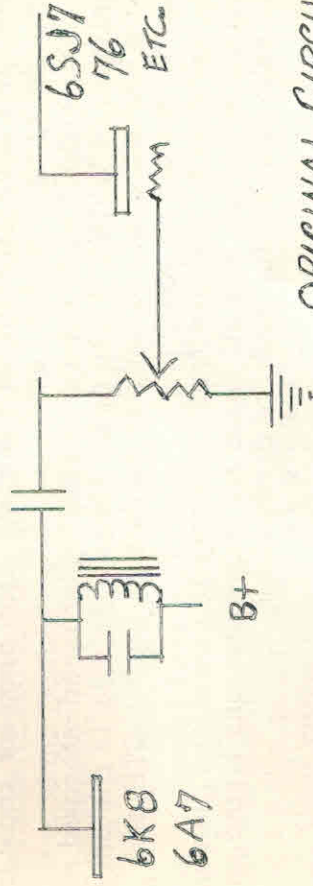
The modification consists of breaking the audio output connection at the plate of the mixer/crystal oscillator tube and inserting a 2.5 millihenry R.F. choke between the plate of the mixer and the audio load choke so as to present an R.F. load in the plate of the mixer. This, in turn is coupled to an alternate output jack through a 100mmf. mica coupling capacitor to give an R.F. output direct from the plate of the mixer to an external load such as a receiver for alignment or other frequency measurement applications. This gives much stronger signals from both the crystal and variable frequency oscillators and also increases the usefull harmonic content of the output signals with the result that the instrument is useable well into the 6m band and beyond.

This however is not the greatest advantage of this modification. We now have an additional function that was not obtainable before with the low output that was available from the regular antenna connection. With the increased output from the plate of the mixer tube we may use sum and difference frequencies by mixing the crystal signal with the VFO signal by taking the resultant signal from the new output we have added.

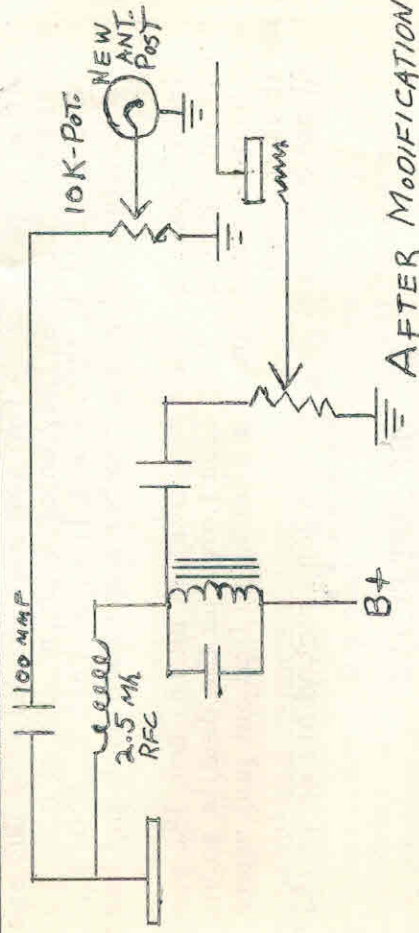
These sum and difference frequencies apply to the harmonics of both oscillators as well as to the fundamentals. So we see it is possible to mix the second harmonic of the VFO with the third, fourth or higher harmonic of the crystal to get literally thousands of additional check points with all the original accuracy maintained throughout the entire short wave and VHF spectrum.

One word of warning, with this method of interpolating frequencies, it is necessary to know the frequency setting OF THE EQUIPMENT TO BE CHECKED OR CALIBRATED WITH- IN THE range of the difference of the adjacent harmonics of the lowest frequency to be mixed. In other words if you wish to set your receiver to a frequency in the forty meter

band which would involve the use of the seventh harmonic of the crystal plus say, the second or third harmonic of a low band frequency on the frequency meter, it would be necessary to be reasonably sure of the setting of the receiver dial with- in plus or minus the value of the fundamental signal of the low band frequency to be used.



ORIGINAL CIRCUIT



AFTER MODIFICATION

By the use of the original calibration book for your particular BC-221 and some simple mathematics I'm sure that you will find frequency measurement very interesting and fascinating plus the satisfaction of being able to preset your receiver or transmitter with the accuracy approaching that of some expensive crystal calibrators.

Chief Op.
W9JZV

We talked to J. Oberg, W9DSO about his job as QSL manager while attending the Convention and he told us that most hams would be surprised how many Amateurs have cards waiting for them, even though they don't work DX. Many SWL's as well as Amateurs across the pond pick up transmissions that are unusual, due to distance, frequency, erratic skip, etc. and send cards to let the State-side operator know he was heard here, there, etc.

You should have one or two self-addressed-stamped envelopes in W9DSO's file at all times. As this is the only way you are going to get any cards that hit his QTH and are addressed to you.

As soon as the new Area Directory is completed, we will send him a copy and all cards for those stations listed will be sent down to the club for distribution.

NEW MEMBERS

We wish to welcome two new members into the IRC and express the hope that they enjoy every minute of it.

W9AXM-Alvin A. Miller who lives at 7625 E. 10th St. here in Indpls. Al was a member some time back and has renewed.

K9GNC-John G. Flick who lives at RR 18, Box 382 somewhere near Indpls. John didn't give us the details so you will have to catch him at a meeting to find out just where RR 18 is located.

Al got his ticket in 1948 and John picked his up in 1957.

IRC VHF CERTIFICATE

Word has been received from our Chief Scribe that the following VHF certificates have been issued.

K9IXD	Doris Singer	100 contacts
K9SUW	Al Minnick	100 contacts
K9MZV	Ruth Litwiler	100 contacts
K9KKF	Fred Billman	100 contacts
K9KKG	Rosalie Billman	100 contacts
W9HTK	Larry Goodrich	25 contacts
K9LJW	Bob Derbyshire	25 contacts
W9PQZ	Gerald Carrier	25 contacts

If your name doesn't appear, better check the log and prepare your list for a mighty fine piece of wall-paper. Send all requests to Bert Brouse, K9JSF.

CENTRAL DIVISION CONVENTION

Poor old Pat is beginning to realize the Convention is over. He's still a little groggy but the body is warm and the glassy look is about gone from his eyes. As everyone knows who has gone thru it, the staggering amount of detail work that pops up is almost unbelievable.

We understand the attendance was over 400 and the Riley Room almost filled for the main banquet on Saturday night. ARRL President Doslan gave his address which left us all with the feeling that we are glad to be ARRL members.

You prewar men who knew the Texas Dewdrop had a chance to meet her again as Mrs. Doslan.

Brig. General Bestic, K4BMR held the attention of the entire room with his presentation of communication problems and the adoption of SSB in the military. He expressed appreciation by the government for the moral building by Amateurs through their phone patch service.

Lots of the fellows had a chance to attend a style show when the word got around that the expected number of XYL and YL's would not attend the noon luncheon and the boys bought tickets to fill the house or as the old conventioners would say, made the guarantee. The fellows came through again on Sunday at the "Gobs 'n Gals" luncheon and that worked out OK too. The XYL Club and HAWKS YL's did a fine job and were a real boost to the convention.

Everyone had the chance to meet a lot of new faces and renew lots of old friendships, which after all is the real reason we have Conventions.

Probably one important fact that we seldom mention, is that some of the fellows had the chance to parade the "Boss Lady" past some of the new gear that was on display, which should soften the blow when the OM carts it home some Saturday morning.

We hope that all of you had a good time and a tip of the lid to the IRCC and the committee that put on the show. They can always be bigger and better, but for a every ten year or so Convention in our back yard we think that everything was great and that everyone did a fine job.

Now all we have to do is start thinking about the next one and make up our minds that it will be here again.

Ed. Note; W9JJC, Alvey Pittman has already volunteered to be General Chairman for the next Central Division Convention.

HAM ADS

FOR SALE: VPA-20 Mosley vest pocket 3 Element
20 meter beam \$ 30.00

W9QAX, Tom Jacks
S. Bend, Ind.

(For info call Bob W9PSE, CL 5-1849)

REBEL IV Natural Birch Finish - Deluxe custom built
12" Speaker enclosure---only-----
\$175.00 value \$ 65.00

Bob Osterhous, W9PSE
CL 5-1849

FOR SALE: Heath Sixer---Won by non-amateur at
RCA Field Day----Will sell for best offer.

Art Evans, W9TQC
FL 6-8131

FOR SALE: BC 348 in excellent condition/with self-
contained power pack----original matching speaker.
Base is shock mounted. Covers from 1500 kc to
18 mc. ----- \$ 50.00

Jim Sugioka, W9CKB
235 S. Ritter
FL 6-2839

FOR SALE: Elmac AF 67 transmitter with James
Power Supply----- \$ 100.00
Russell Madison, K9JAF
WA 3-4795

continued from page 2.

common small transistors. By first measuring the collector to emitter resistance and then by shorting the base to emitter the resistance value should be less, if this is true, transistor is good. Caution should be used in polarity of VOM. With a Simpson meter the red terminal is plus and with an NPN transistor red connects to collector, black (neg.) to emitter. For PNP the polarity would be reversed. The transit time of the transistor limits the frequency at which it can operate. The alpha cut off frequency is the half power point (707) where there is a loss in gain, current and power. Some of the more practical transistor circuits use the common emitter configuration providing better impedance match with a resultant current gain.

After a short question period Mr. Atherton showed some equipment utilizing transistors for compact packaging of power supply units, etc.

THE SKIPPER RETIRES

Recently the newspapers carried the story of the retirement of D. J. Angus from active participation in the Ester-Line Angus Co.

We want to wish D. J. the best on his retirement and thank him for past favors of which we will shortly relate, with the hope that they will refresh his memory the better to enable him to more thoroughly enjoy those free moments he will now have.

D. J. was in on the founding of the IRC in 1914 and has retained his membership throughout the years ever since. During those years he has been of great help to the youngsters he has met at the club and of course other places. Many of the events written under "Twenty Years Ago" were made possible thru his furnishing transportation, tents, and the planning that many young men were to enjoy. Yes, he even served as cook so that the kids wouldn't go home to Mom and Pop with a hungry complaint or even worse, go home with a belly-ache due to bad cooking of some of the rest of the gang.

He has extended a helping hand to those around him by giving freely, equipment to those who were unable to manage it alone, as well as giving many hours of his time for their instruction and guidance.

He has extended many a helping hand to those entering college and in need of help to get through the lean years. He has more than once gone to bat, to find employment in order that some young gent could follow his choosen field.

Yes, he is one who has given well of his talents, and possessions and we extend our heartfelt thanks and wish him many more happy years ahead. We are proud that he has and does belong to IRC and we wish him the very best.

Good Luck OM

GRAHAM'S SPECIALS OF THE MONTH

Viking Valiant-----	REAL PRETTY-----	\$299.00
Hammurlund HQ-170-----	---VERY NICE-----	\$299.00
Gonset GSB-100-----	GOOD CONDITION-----	\$384.50
Collins 75A4-----	HIGH SERIAL NUMBER-----	\$550.00
Gonset G66B and G77A with 3 way power supplies and Electro Voice Dynamic Mike-----		\$379.50
Collins KWM-1-----		\$610.00
Collins 516F1 Power Supply-----		\$ 75.00
WRL LA-1 Linier-----	---VERY NICE-----	\$ 77.50

and MANY OTHER BARGAINS TO CHOOSE FROM

COVER STORY

In 1935 a 15 year old Shortridge High School student proudly sent out his first CQ and signed W9TKV. The Home-Brew receiver and transmitter (451s) assembled by Claude Richie, W9TKV was to lead to many years of fascinating and absorbing work in piling up 251 DX countrys with 218 confirmed. In 1935 Claude lived at 1854 Delaware. His early interest in foreign languages led to many DX contacts with Spanish speaking countries. Claude served as President of the Shortridge High School Radio Club. He also joined the Indianapolis Radio Club in 1935 and has been a member ever since. He has held office as Director, Secretary and later Treasurer.

During the war years 1941-45, Claude served with the Military Intelligence where his linguistic ability proved most valuable.

Following the military work TKV attended and graduated from Harvard, majoring in Romance Languages. During 1951 and 1952 he again served on active duty at the Pentagon. He's still on reserve duty as officer in charge of Russian language and interrogation.

During these years away from Indianapolis, Claude was occasionally able to come home for a short trip and the gang at the club was always eager to see and hear from him.

1955 was a big year in the life of TKV---when he was shot by an arrow---Cupids---and now lives with his charming wife, Fimie, in their attractive home at 5657 Lieber Road.

His main interest in Ham Radio centers around DX work, using a Globe King 500 with a HQ-170 receiver and a tri-band beam at 52 feet.

* * * * *

FCC EXAMS

The next FCC Exams to be given in Indianapolis will be as follows:

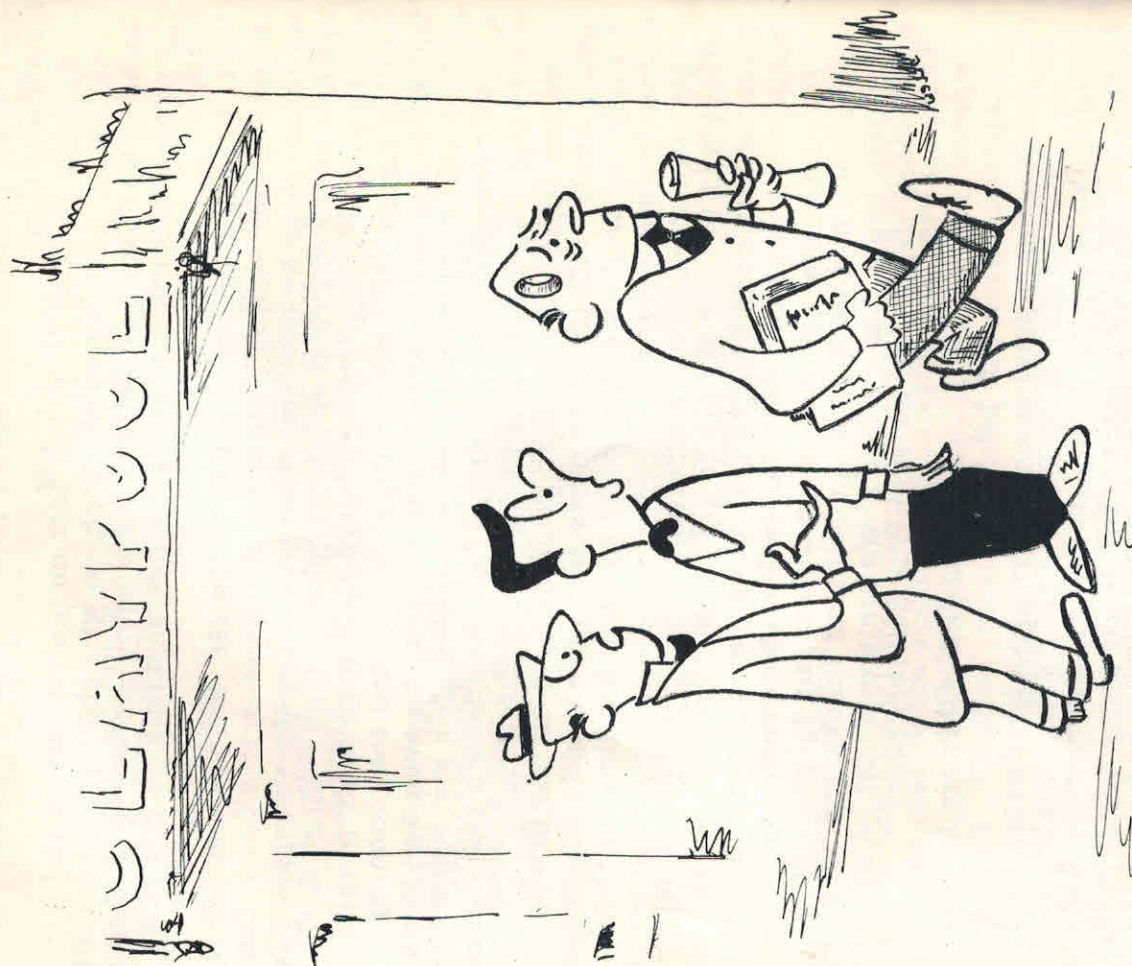
November 14th-----Commercial-----9:00 to 5:00 PM.

November 15th-----Amateur-----9:00 to 2:00 PM.

Please note that all exams must be finished by the last time shown above. (Commercial 5:00 PM & Amateur 2:00 PM)

(continued on next page)

HE WANTS TO PUT ON A
(CONVENTION!



(continued from page 13)

Write for Form 610 to Engineer in Charge, Federal Communications Commission, 826 U. S. Court House, Chicago, Ill. and advise them of your intention to take the exam.

WANTED: 6 meter Converter in Good Condition. Call:

Doyle Cooper, Kn9UTW

LI 6-6179

FOR SALE: Globe King 500 C, latest model with D-104 mike & stand, Darod Phone Patch and spare final tube--

\$500.00

John Lamey, W9BDG

2533 Benedict

South Bend, Indiana

SPLATTER

The following card was received from a displaced Hoosier:

Hi Gang:

Just a note from Washington, Pa. to let you know my new call. I am now K3NIC

I will be looking forward to working some of the gang in Indianapolis.

Best Regards,

Jack Hofeld, W9VVX

Jim Sugioka, W9CKB, suffered a heart attack recently and we understand that he is still confined to his home. We wish you a speedy recovery Jim, and will be looking forward to seeing you up and around in the very near future.

LATE FLASH

The following officers were elected for the 1960-61 term of the Indiana Radio Club Council.:

President

Arthur G. Evans, W9TQC, Indpls.

Vice-President

Lew Harvey, W9KT, Terre Haute

Secretary

Adah Elliott, W9RTH, Seymour

Treasurer

Betty Timberlake, W9LYU, Lafayette

Board of Directors:

Doris Singer, K9IXD, Indpls.

Jerry Smiley, W9DKR, Kokomo

Bill Siebenmorgen, W9IHO, Terre Haute

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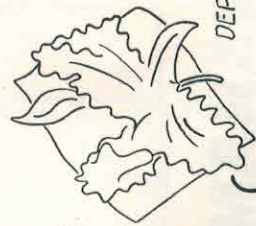
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